

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Final Endangered Status for *Lomatium bradshawii* (Bradshaw's *lomatum*)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Fish and Wildlife Service (Service) determines *Lomatium bradshawii* (Bradshaw's *lomatum*) to be an endangered species. The few remnant populations of this plant species are being threatened by habitat alteration or destruction through agricultural or residential development and competition with encroaching woody vegetation. *Lomatium bradshawii* occurs in isolated pockets of remaining native bottom land prairie habitat in the Willamette Valley of Oregon. This rule implements the protection provided by the Endangered Species Act of 1973, as amended (Act), for *Lomatium bradshawii*.

DATE: The effective date of this rule is October 31, 1988.

ADDRESSES: The complete file for this final rule is available for public inspection by appointment during normal business hours at the U.S. Fish and Wildlife Service, 4696 Overland Road, Room 576, Boise, Idaho 83705.

FOR FURTHER INFORMATION CONTACT: Jay Gore, Field Supervisor, Division of Endangered Species, U.S. Fish and Wildlife Service, 4696 Overland Road, Room 596, Boise, Idaho 83705. (208/334-1931 or FTS 554-1931).

SUPPLEMENTARY INFORMATION:**Background**

Lomatium bradshawii (Bradshaw's *lomatum*) is a member of a native lowland prairie community endemic to the Willamette Valley of Oregon. This includes Benton, Linn, Lane, Polk, and Marion counties. First collected in 1916 at Salem, it was described as *Leptotaenia bradshawii* in 1934, and included in *Lomatium* in 1942. It is usually found on low swales in areas that are wet much of the year.

The most significant threat to this plant's survival has been the conversion of native prairie habitat to agricultural land. Because the habitat is very valuable and productive as farmland, most of such land in the Willamette Valley is now in agricultural use. Recently, residential and industrial development has encroached upon much

of the remaining habitat that supports *Lomatium bradshawii*. Suppression of fire in some areas also appears to be allowing encroachment of prairie habitat by woody vegetation, resulting in a decline of the *Lomatium*.

Formerly, the plant occurred from Salem, Oregon, to Creswell, Oregon, but it is now reduced to 11 populations, scattered from Stayton, Oregon, to just south of Eugene, Oregon. Over 90 percent of the known plants are located within a 10-mile radius of the city of Eugene, Oregon. These populations vary in size from several thousand plants to only a few individuals, and their vigor varies considerably. Two of the larger populations are vulnerable to further urban and industrial development while the others are threatened primarily by agriculture development.

Section 12 of the Endangered Species Act of 1973, as amended (Act), directed the Secretary of the Smithsonian Institution to prepare a report on those plants considered to be endangered, threatened, or extinct. This report, designated as House Document No. 94-51, was presented to Congress on January 9, 1975. On July 1, 1975, the Service published a notice in the *Federal Register* (40 FR 27823) of its acceptance of the report of the Smithsonian Institution as a petition within the context of former section 4(c)(2) of the Act (petition acceptance is now governed by section 4(b)(3) of the Act), and of its intention to review the status of the plant taxa named within. On June 16, 1976, the Service published a proposed rule in the *Federal Register* (41 FR 24523) to determine approximately 1,700 vascular plant species to be endangered species pursuant to section 4 of the Act.

This list of 1,700 plant taxa was assembled on the basis of comments and data received by the Smithsonian Institution and the Service in response to House Document No. 94-51 and the July 1, 1975, *Federal Register* publication. *Lomatium bradshawii* was included in the July 1, 1975, notice of review and in the June 16, 1976, proposal.

The Endangered Species Act Amendments of 1978 required that all proposals over 2 years old be withdrawn. A 1-year grace period was established for proposals already over 2 years old. On December 10, 1979, the Service published a notice of the withdrawal of the still-pending portion of the June 16, 1976, proposal, along with four other proposals that had expired. The withdrawal of the proposal to list *Lomatium bradshawii* was not based on biological considerations, but instead was the result of the administrative

requirements of the Act prior to the 1982 Amendments. An updated notice of review, published on December 15, 1980 (45 FR 82480), listed *Lomatium bradshawii* in Category 1, which comprises taxa for which sufficient information is available to support proposal of listing as endangered or threatened. On February 15, 1983, the Service published notice (48 FR 6752) of its finding that the petitioned listing of this species may be warranted, in accord with section 4(b)(3)(A) of the Act, as amended in 1982. On October 13, 1983, October 12, 1984, and again on October 11, 1985, the petition finding was made that listing of this taxon was warranted, but precluded by other pending listing actions, in accordance with section 4(b)(3)(B)(iii) of the Act. Such a finding requires that the petition be recycled, pursuant to section 4(b)(3)(C)(i) of the Act. Therefore, a new finding was made: the Service found that the petitioned action is warranted and published a proposal, *Federal Register* of November 21, 1986 (51 FR 42116), to list the species as endangered, in accordance with section 4(b)(3)(ii) of the Act.

Summary of Comments and Recommendations

In the November 21, 1986, proposed rule, and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. Newspaper notices inviting public comment were inadvertently not published in time for the first comment period. Therefore, the public comment period was reopened. A notice reopening the comment period was published November 23, 1987 (52 FR 44922). Appropriate State agencies, county governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. A newspaper notice, inviting general public comments, was published in the following newspapers: *The Oregonian* on December 22, 1987; *The Statesman Journal* on December 23, 1987; and *The Eugene Register-Guard* on December 23, 1987.

During both comment periods, which totaled approximately 6 months, a total of twelve written comments were received. Comments were submitted by two Federal agencies, one State agency, one conservation organization, professional botanists, and concerned individuals. Both responding Federal agencies, the U.S. Bureau of Land Management (Bureau) and the U.S. Corps of Engineers (Corps) stated that

Federal endangered status for this plant would not have any significant effect on their activities or plans.

More specifically, the Corps has identified *Lomatium bradshawii* as occurring only on the Fern Ridge Reservoir Project in the Portland Corps District, but stated that the listing of the Bradshaw's lomatium will have little, if any, impact on the authorized project purposes, nor on the normal project operations of facilities. The Corps' primary project operation is for flood control, and their secondary project is for irrigation.

The proposed waterfowl management operations to be instituted by the Oregon Department of Fish and Wildlife, a licensee on the project, may require modification to avoid impacting the *Lomatium* and its habitat. The proposed waterfowl management operation is intended to construct waterfowl impoundments. One of the dikes in this project may affect one *Lomatium* population in the area. In addition, a small population near Amazon Dike No. 2 in the Fern Ridge project area could be affected by the construction of a proposed bicycle path and dike. If a bicycle path is developed, according to the Corps, it will be routed to preclude any impact to the plant.

The Oregon Department of Agriculture supported the proposed ruling to list *Lomatium bradshawii* as endangered. The remaining comments received from biologists, a conservation group, and individuals familiar with this species strongly supported the listing. There were no comments from private landowners, nor were there comments questioning or taking issue with the listing of *Lomatium bradshawii*.

Summary of Factors Affecting the Species

After a thorough review and consideration of all available information, the Service has determined that *Lomatium bradshawii* (Bradshaw's lomatium) should be classified as an endangered species. Procedures found at section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR Part 424) promulgated to implement the listing provisions of the Act were followed. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1) of the Act. These factors and their application to *Lomatium bradshawii* (Rose ex Math.) Math. & Const. (Bradshaw's lomatium) are as follows:

A. The Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range

Although this species was known historically throughout the Willamette Valley of Oregon, habitat of *Lomatium bradshawii* has been mostly developed for agriculture or urbanization, leaving 11 small populations. These habitats are generally managed for either livestock grazing or wildlife, or not managed at all.

Invasion of prairie vegetation by various woody plant species has also caused decline in *Lomatium bradshawii* at most of the sites. Prairies in the Willamette Valley apparently require periodic burning to prevent such encroachment. However, because seeds and young plants of the *Lomatium* do not survive fire, burning at too frequent an interval can prevent establishment of new individuals of the species (Kagan 1980). These 11 populations vary in number of individuals from a few to over 10,000 plants, and occur on 0.5 acre to approximately 30 acres.

Two existing populations are located near Corvallis, Oregon: One on the Finley National Wildlife Refuge (NWR) and the other just northeast of Corvallis. The population on Finley NWR was recently rediscovered and presently consists of about 60 individual plants. The habitat on the refuge is managed by the U.S. Fish and Wildlife Service, primarily as a natural area. Past management practices included some controlled burning to prevent the encroachment of shrubs on the native grassland. Future refuge habitat management activities will include provisions to improve the status of this population.

The second site, at the Jackson-Frazier wetland northeast of Corvallis, consisted of a remnant population of over 1,000 plants. An adjoining wet prairie of approximately 75 acres north of this area functioned as the watershed critical to this population. However, a large portion of this population was destroyed by construction of a housing development in 1980. The area supporting the remaining *Lomatium* plants was plowed in November 1985. About 400 plants still survive in 1986 (Kagan, pers. comm.). Well over 50 percent of the estimated population before construction and plowing were destroyed.

Other populations of *L. bradshawii* are in and around Eugene, Oregon. One is located near the Long Tom River, northwest of Eugene, Oregon, and formerly occurred on both private and Bureau of Land Management (Bureau) land. However, the portion of the

habitat on private land and some adjacent habitat on Bureau land has been plowed, destroying approximately half of the total population. The remainder of this population, occurring on Bureau land, has been subject to light grazing in the past, but has never been plowed. The Bureau has not determined the future management of this land. The Department of Rangeland Resources, Oregon State University, has initiated a study to investigate the ecological role of fires in remnant Willamette Valley bottomland prairies. The Bureau intends to use these research results in the development of management strategies to perpetuate or improve the status of rare plant species, including *L. bradshawii*, and their restricted prairie habitats.

The second of these more southern populations, and the largest extant population of the species, numbering in the thousands, is located in Eugene near Willow Creek. This site supports a diverse plant community, a relic of the Willamette Valley bottomland prairie. Another plant candidate for listing, *Erigeron decumbens* var. *decumbens* (Willamette daisy) also occurs at this site. This land is privately owned and had been under consideration for residential development. Currently, it is leased to The Nature Conservancy, and the local community is negotiating to attempt to preserve the land.

The third population in the Eugene area is located near the Fern Ridge Reservoir on land administered by the Army Corps of Engineers. Although about 100 individuals of the *Lomatium* have been destroyed here in recent years, apparently as a result of permanent flooding of a portion of the area, the remaining population is estimated to comprise about 10,000 plants.

The fourth population in the Eugene area was discovered near Mt. Pisgah in 1985. It comprises about 100 to 200 individuals, and is threatened by urban and agricultural development.

Three small populations, of fewer than 100 individuals each, occur in or near Eugene, Oregon. One is located in Eugene along Amazon Creek. Although this land has been managed for recreation for many years, a very small population of *Lomatium bradshawii* occurs at the site. Another population was discovered west of Eugene near an electric power substation. A third was discovered a few miles south of Eugene along the Camas Swale near Interstate 5, in 1985, but has not been seen for 2 years, and may now be extirpated there. Two additional populations have been reported from near Sublimity, Oregon

and near Kingston, Oregon. These populations are very small and their continued existence is doubtful due to primarily agricultural development.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

Although the species is not known to be threatened by collecting or vandalism, its rarity makes it vulnerable to any potential threat of taking.

C. Disease or Predation

Grazing may have formerly contributed to a reduction in the range of *Lomatium bradshawii*, but it is believed that grazing was never a significant problem. Land use conversion and introduction of forage plants for the purposes of grazing livestock may have been a significant problem.

Lomatium bradshawii is known to be affected by a number of parasites. A fungus, a spittle bug, two species of aphids, and an unidentified insect predator (of the fruit) have been associated with *L. bradshawii* (Kagan 1980). They are not known to present a threat to the species as a whole; however, they could threaten small and stressed populations. Further work is necessary to determine the significance of any such threats.

D. The Inadequacy of Existing Regulatory Mechanisms

Existing State and Federal regulations do not afford *Lomatium bradshawii* adequate protection. Agencies involved with allowing or funding agriculture development are not presently required to consult with agencies knowledgeable about the distribution of this plant. This lack of protection promotes the continued reduction of the plant's habitat and increases the potential for the plant's extirpation. Presently State and Federal governments do not require implementation and protective measures for the species and its habitat during application of pesticides. (See discussion under "Available Conservation Measures," below.)

E. Other Natural or Manmade Factors Affecting its Continued Existence

The remaining small populations are all disjunct and geographically (thus genetically) isolated from each other. Inbreeding depression in these small populations may be a real threat to their long-term survival (Kagan 1980). Further study is necessary to assess the significance of inbreeding.

The Service has carefully assessed the best scientific and commercial information available regarding the past,

present, and future threats faced by this species in determining to make this rule final. Based on this evaluation, the preferred action is to list *Lomatium bradshawii* as endangered. This species has been reduced to a few remnant populations as a result of conversion of its habitat in the Willamette Valley to urban and agricultural use. Therefore, the Service believes that Bradshaw's lomatium is in danger of extinction throughout all or a significant portion of its range. No critical habitat is designated, for the reasons discussed below.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that, to the maximum extent prudent and determinable, the Secretary designate any habitat of a species that is considered to be critical habitat at the time the species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for this species at this time. Because there are only 11 known remaining populations of *Lomatium bradshawii*, within relatively small tracts of land, the plant could be threatened by taking or vandalism if its localities were made widely known. Taking, an activity which is difficult to detect and control, is not regulated by the Endangered Species Act with respect to plants, except for a prohibition against removal and reduction to possession of endangered plants from lands under Federal jurisdiction. Publication of critical habitat descriptions would make this species more vulnerable to collection and vandalism pressures and increase enforcement problems. Therefore, it would not be prudent to determine critical habitat for *Lomatium bradshawii* at this time.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides authority for land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibitions against taking are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402. Section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service. In the case of *L. bradshawii*, the management of the Finley National Wildlife Refuge, the Army Corps of Engineers' property near the Fern Ridge Reservoir, and the Bureau's public land on which this species occurs would be subject to these requirements.

The Act, and its implementing regulations found at 50 CFR 17.61 and 17.62, set forth a series of general prohibitions and exceptions that apply to endangered plants. With respect to *Lomatium bradshawii*, all prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.61, apply. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to import or export, transport in interstate or foreign commerce in the course of a commercial activity, sell or offer for sale this species in interstate or foreign commerce, or to remove and reduce to possession the species from areas under Federal jurisdiction. Certain exceptions can apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.62 also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered plant species under certain circumstances. Because this species is not known to be cultivated and is rare in the wild, it is anticipated that few, if any, permits would ever be sought or issued. Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the Office of Management Authority, U.S. Fish and Wildlife Service, P.O. Box 27329, Central Station, Washington, DC 20038-7329 (202/343-4955).

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared

in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the Federal Register on October 25, 1983 (48 FR 49244).

References Cited

Kagan, J.S. 1980. The Biology of *Lomatium bradshawii* (Apiaceae), a rare plant of Oregon. Unpublished Report. 71 pp.

Author

The primary author of this final rule is Robert L. Parenti, U.S. Fish and Wildlife Service, 4696 Overland Road, Room 576,

Boise, Idaho 83705 (208/334-1931 or FTS 554-1931).

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife. Fish, Marine mammals, Plants (agriculture).

Regulation Promulgation

Accordingly, Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations is amended as set forth below:

PART 17—[AMENDED]

1. The authority citation for Part 17 continues to read as follows:

Authority: Pub. L. 93-205, 87 Stat. 884; Pub. L. 94-359, 90 Stat. 911; Pub. L. 95-632, 92 Stat. 3751; Pub. L. 96-159, 93 Stat. 1225; Pub. L. 97-304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*); Pub. L. 99-625, 100 Stat. 3500 (1986), unless otherwise noted.

2. Amend § 17.12(h) by adding the following, in alphabetical order under the family Apiaceae, to the List of Endangered Threatened Plants:

§ 17.12 Endangered and threatened plants.

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(h) * * *

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Apiaceae—Parsley family:						
<i>Lomatium bradshawii</i>	Bradshaw's lomatium	U.S.A. (OR)	E	333	NA	NA

Dated: September 22, 1988.

Susan Recce,

Assistant Secretary for Fish and Wildlife and Parks.

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